

Computer and Information Sciences
Catalog Year 2020-2021 and Later
Required Computer Science Courses

34 Units

		Units
_____	CIS 377 Intro to Cybersecurity	3
_____	COSC 236 Intro to Computer Science I	4
_____	COSC 237 Intro to Computer Science II	4
_____	COSC 290 Principles of Computer Organization	4
_____	COSC 336 Data Structures & Algorithm Analysis	4
_____	COSC 350 Data Communications & Networking	3
_____	COSC 412 Software Engineering	3
_____	COSC 439 Operating Systems	3
_____	COSC 455 Programing Languages	3
_____	COSC 457 Database Management Systems	3

Required Science Courses

8 Units

Select 2 lab science courses from the following:

		Units
_____	ASTR 161 Sky and Solar System	4
_____	ASTR 181 Stars, Galaxies, Universe	4
_____	BIOL 200 + L Intro to Cell Biology	4
_____	BIOL 206 + L Intro to Ecology/Evolution	4
_____	CHEM 131 + L General Chemistry	4
_____	CHEM 132 + L General Chemistry II	4
_____	GEOL 121 Physical Geology	4
_____	PHYS 241 General Physics I	4
_____	PHYS 242 General Physics II	4

Required Software Engineering Courses

18 Units

		Units
Required Courses:		
_____	COSC 432 Requirements Analysis & Modeling	3
_____	COSC 436 Object-Oriented Design/Programming	3
_____	COSC 442 Software Assurance & Testing	3
_____	COSC 490 Software Project Practicum	3

Select 2 from the following:

		Units
_____	COSC 397 Internship in COSC	3
_____	COSC 435 Mobile App Development	3
_____	COSC 467 Data Mining	3
_____	COSC 484 Web-Based Programming	3

Required Core Courses

9 Units

		Units
_____	COMM 131 Public Speaking (Core 5)	3
_____	ENGL 317 Writing for Business & Industry (Core 9)	3
_____	COSC 418 Ethical & Societal Concerns CS (Core 14)	3

Elective Math Courses

3-4 Units

Select one math course from the following:

		Units
_____	MATH 265 Elementary Linear Algebra	4
_____	MATH 275 Calculus III	4
_____	MATH 314 Cryptography	3
_____	MATH 315 Applied Combinatorics	3
_____	MATH 369 Intro to Abstract Algebra	3
_____	MATH 374 Differential Equations	3
_____	MATH 377 Mathematical Models	3
_____	MATH 378 Scientific Modeling & Simulation	3
_____	MATH 435 Numerical Analysis I	3
_____	MATH 436 Numerical Analysis II	3
_____	MATH 437 Operations Research	3
_____	MATH 451 Graph Theory	3

Required Mathematics Courses

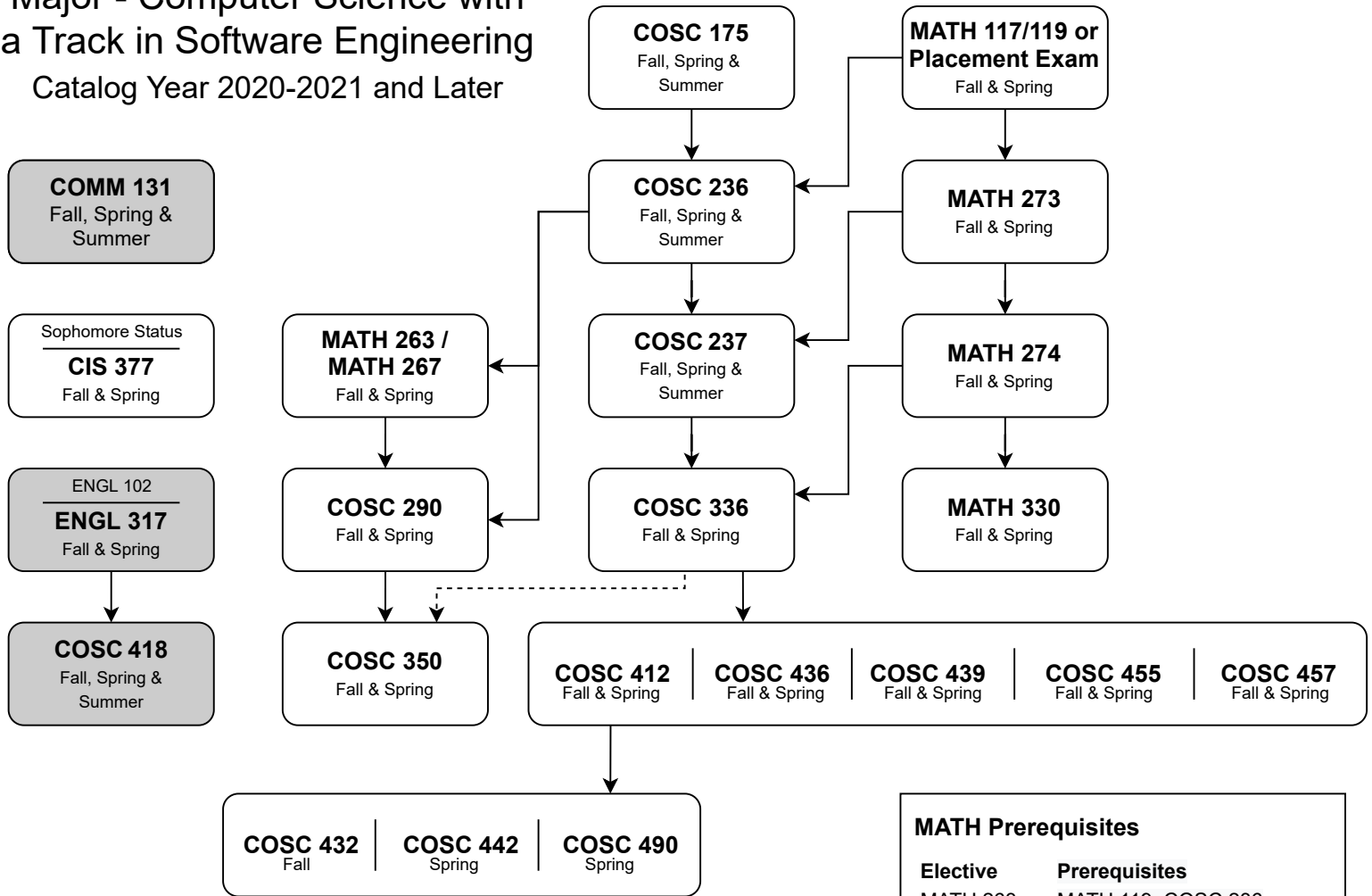
15-16 Units

		Units
_____	MATH 263 Discrete Mathematics OR	3
_____	MATH 267 Intro to Abstract Mathematics	4
_____	MATH 273 Calculus I	4
_____	MATH 274 Calculus II	4
_____	MATH 330 Intro to Statistical Methods	4

Total Units: 87-89

Major - Computer Science with a Track in Software Engineering

Catalog Year 2020-2021 and Later

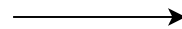


MATH Prerequisites	
Elective	Prerequisites
MATH 263	MATH 119, COSC 236
MATH 265	MATH 211 OR 273
MATH 267	MATH 273
MATH 273	MATH 119
MATH 274	MATH 273
MATH 275	MATH 274
MATH 314	COSC 236, MATH 265 or 267, MATH 330
MATH 315	MATH 263, 265 or 267
MATH 330	MATH 274
MATH 374	MATH 274
MATH 377	MATH 265, 274, COSC 236
MATH 378	MATH 274, COSC 236
MATH 435	MATH 265, 274, COSC 236
MATH 436	MATH 435
MATH 437	MATH 265, 331
MATH 451	MATH 263 OR 267
MATH 467	MATH 369

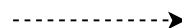
Software Engineering Elective Prerequisites and Offering

Elective	Prerequisites	Offered
COSC 397	COSC 336, 2.75 GPA, instructor consent	Fall, Spring & Summer
COSC 435	COSC 336	Fall & Spring
COSC 467	COSC 336	Fall & Spring
COSC 484	COSC 336	Fall

Prerequisite



Co-Requisite



Sophomore Status

CIS 377

Course/Status listed above
is also a prerequisite.

Find more advising resources at:

<https://www.towson.edu/fcsm/departments/computerinfosci/resources/advising.html>

Visit the CIS Advising Hub in YR 207

Or Email: cisadvising@towson.edu